

No. XII.—NEUROPTERA, MYRMELEONIDÆ FROM THE INDIAN OCEAN.

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(Text-Figures 1—3.)

Read 5th June, 1913.

FOUR species of antlions, collected in the Seychelles and other islands of the southwestern part of the Indian Ocean by the Percy Sladen Trust Expedition, were sent to me by Mr Hugh Scott for study, and are here reported upon. One of the species is the well-known *Myrmeleon obscurus* Rambur which is widely spread in that part of the world. Rambur and Walker reported it from Mauritius, and in the present collection it is represented by specimens from nearly all the islands that were visited. A new species of *Formicaleo*, belonging to the subgenus *Distoleon*, is represented by a single specimen from Mahé, Seychelles Islands. The other two species, singularly enough, were collected only from the coral atoll of Aldabra. One of these, a fine *Acanthaclisis*, is new to science. The list, with localities and other data, together with descriptions of the new species follows.

1. *Myrmeleon obscurus*, Rambur (Fig. 1).

*Myrmeleon obscurus* Rambur, Hist. Nat. Ins. Neur., 1842, p. 403; Walker, Cat. Neur., Part II, 1853, p. 370.

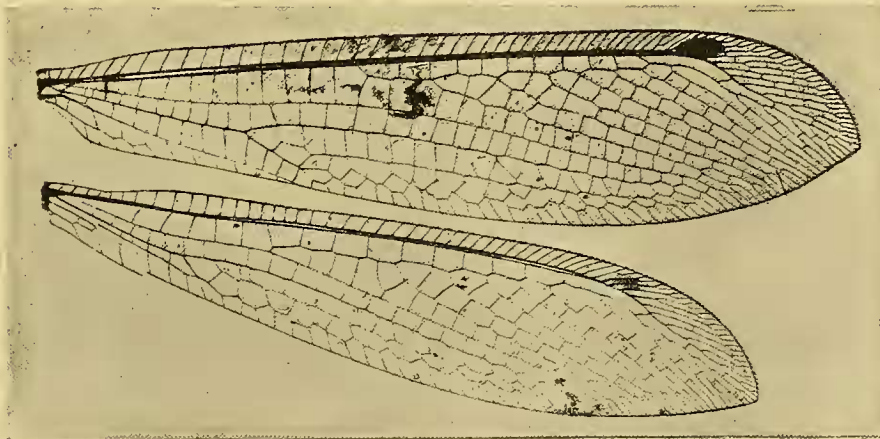


Fig. 1. *Myrmeleon obscurus* Rambur, wings.

This species is represented by fifteen specimens from a number of different islands. Length to wing tips 27 mm., expanse of wings 50 mm. The specimens agree well with Walker's description, which is ample for recognition.

*Loc.* Aldabra, 1908 (Fryer). Farquhar Atoll, 1905. Amirantes: Poivre and d'Arros Islands, X. 1905. Coetivy, 1905. Seychelles: Bird Island, 1908 (Fryer); Dennis Island, 1908 (Fryer); Silhouette, near coast\*, 1908; Mahé, 1905 and 1908. Described from Mauritius: widely distributed in Africa.

2. *Acanthaclisis maritimus*, sp. nov. (Fig. 2).

Length 30 mm., male appendages 5 mm. additional; female 33 mm. exclusive of appendages. Antennæ 10 mm.; fore wing 41 mm., hind wing 37 mm. Expanse of fore wings 86 mm.

A rather elongate, long-winged species. Colours brown and yellow. Face yellow: head above from the base of the antennæ upward and backward fuscous, with three transverse rows of yellow spots, the spots of the middle row being smaller than on those of the other rows. Antennæ fuscous, annulate with paler brown; regularly increasing in diameter from the second segment to near the end of the club, and mucronate on the very

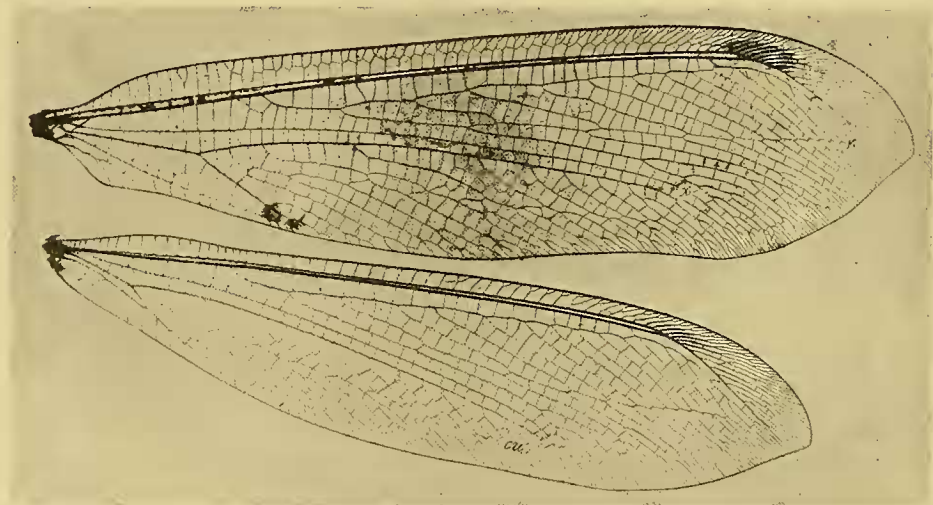


Fig. 2. *Acanthaclisis maritimus*, sp. nov., wings; *cu*, cubital vein; *r*, radial planate; *x*, median nexus.

tip. Prothorax one half longer than wide, grayish above, its sides yellow, with a pair of rather broad dorsal stripes that are made up of vermiculate fuscous markings. The mid-dorsal grayish tract is sprinkled with minute fuscous dots, that are sometimes confluent in three pairs of indistinct dashes. Meso- and metathorax above grayish, marked irregularly with fuscous, and suffused with fuscous at the junction of the segments above. The rather long and sparse hairs clothing the thorax are fuscous in front and above, and white at the sides and in the rear. Legs yellow, thinly clothed with long yellow hairs, and the femora beset with numerous short blackish spines. The tibiæ of the fore and middle legs are doubly ringed with fuscous, one ring being apical and the other near the base, the latter on the fore tibia being more extensive and sometimes divided. Tarsi yellow, with the base of the first segment, all of the second, third and fourth segments

\* In 1908—9 I never observed *M. obscurus* in the endemic mountain-forests of Mahé and Silhouette, but obtained specimens only from the lower parts of the islands.—H. SCOTT.

and the tip of the fifth segment, fuscous: spurs and claws brown: spurs gently curved, as long as the three basal joints of the tarsus.

Wings grayish with a yellowish stigma, veins alternately fuscous and yellow, as are also some of the terminal forks. In the basal part of the subcostal cell are numerous clustered dots, with three groups of such dots farther out beyond the base of the radial sector. There is a brown spot, usually conspicuous (in one specimen apparently absent) on the apex of the cubito-anal loop, sometimes double and very variable. There are some indistinct brownish touches along the middle of the median vein and on the nexus near the tip of that vein, on a few cross-veins immediately before this nexus and about the middle of the hind border. The hind wing is unmarked behind the radial vein save for faint touches of brown at the median nexus. The two cross-veins in the space beyond the stigma, behind the vein  $R_1$ , are tinged with brown. The veins in the costal area are forked from the level of the base of the radial sector to the stigma, and connected together by a rather irregular series of gradates. The radial planate is well defined (although forming a broken line) in both wings, but the cubital planate is little developed, its course being hardly traceable. The wings are elongate, obtuse at the tips and parallel-sided from the middle to the level of the stigma.

Abdomen slender, inconspicuously clothed with a very short smooth brown pubescence. Colour yellowish, with large subapical dorsal spots on all the segments, overspreading segments 2, 7, and 8, transversely divided on segment 3, and divided lengthwise by a narrow yellow median line on segment 6. Male appendages yellow, thick and appressed-parallel at base, forcipate beyond, slender and held horizontally, and thickly clothed with fuscous recurved hairs.

Of the four specimens two are males and two are females. One of the males is almost destitute of the larger brownish wing markings, but is in all other respects apparently identical with the other specimens.

*Loc.* Aldabra. This fine species is represented by four specimens collected by Mr J. C. F. Fryer (1908).

### 3. *Formicaleo ornatus*, sp. nov. (Fig. 3).

A slender pale fulvous species, closely allied to *F. bistrigatus* (Rambur) from Tahiti and Australia.

Length about 27 mm. Expanse of wings 78 mm. Antennæ long (9 mm. of one are present, with the clubbed end entirely lacking), yellowish-brown, slightly darker at the ends, and with black half rings about the basal segments on the dorsal side. Face yellow below. A broad fuscous band between the eyes surrounds the bases of the antennæ posteriorly, and there is another paler brownish band extending transversely between the eyes across the rear of the head above. Wings long and narrow with delicate venation and elegant markings and iridescence. Fore and hind wings of equal length, both are widest just before the stigma, which is indistinct. The veins are brownish. There is a quadrate brown spot on the first cross-vein beyond the stigma, behind vein  $R_1$ , and there is more or less of brown on the cross-vein next following. There is a similar brown spot in the fore wing on the median nexus and there are paler spots on three or four of the

gradate cross-veins just behind the nexus. There are also slight touches of brown along the basal portion of the cubital vein where joined by cross-veins in the fore wing, and there are two conspicuous oblique brown streaks; one covering the cubital arc and being half a dozen or more cells long, and the other traversing the base of the terminal forks of the radial sector, and being parallel to the hind margin. In the hind wing there is but one streak, corresponding in position to the one last mentioned, but being a little larger, filling the space between the marginal forks and the last gradate series of cross-veins and extending to the apex of the wing.

Legs slender, yellow, sprinkled with fuscous dots that are more or less confluent about the apices of femora and tibiae. The colour is paler on each succeeding pair, the hind femora being wholly yellow, except a spot at the tip. The spines that thinly clothe all the legs are blackish, and the spurs and claws are brown. The spurs are gently curved, but the claws are straight to very near their tips. The terminal tarsal segment is clothed beneath with a thick brush of deep black clavate hairs. Abdomen wholly

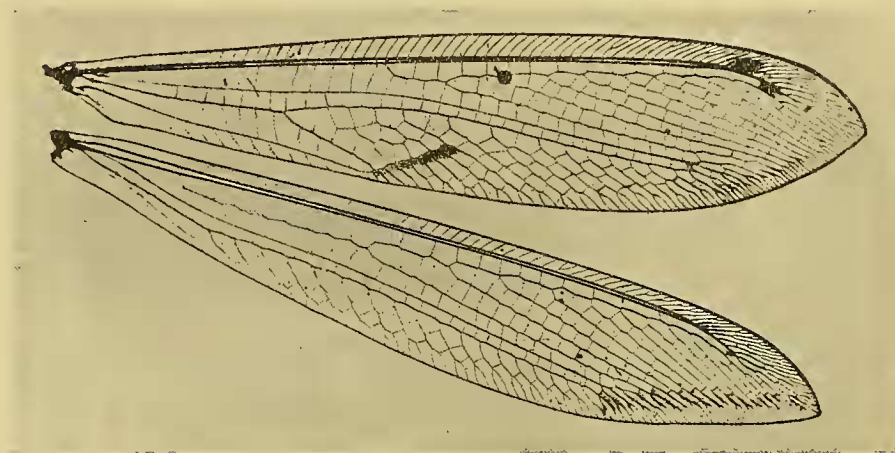


Fig. 3. *Formicaleo ornatus*, sp. nov., wings.

obscure pale brownish, with a suggestion of two dark brownish areas toward the ends of each segment dorsally. The first tarsal segment is slightly shorter than the fifth, which nearly equals the second, third and fourth taken together.

This species lacks the prothoracic stripes of *F. bistrigatus* and also the brown dashes along the cubital vein, and it has, along with lesser markings, the distinct conspicuous brown streak along the cubital arc in the fore wing, which that species lacks. It falls in the subgenus *Distoleon* Banks.

*Loc.* Seychelles. Mahé: Cascade Estate, one specimen labelled "at light," 1. XI. 1905 (Gardiner).

4. *Creagris pervigil* (Walker).

*Myrmeleon pervigil* Walker, Cat. Neur., Part II. 1853, p. 354.

I refer two specimens from Aldabra with considerable hesitancy to Walker's species, the type of which I have not seen. They agree fairly well in colour and markings but are smaller in size than the measurements given by Walker.

*Loc.* Aldabra (Fryer). Walker's species is described from Natal.